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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/824,512	04/02/2001	John S. Perry	1657.48US01	1115
24113	7590	06/25/2004	EXAMINER	
PATTERSON, THUENTE, SKAAR & CHRISTENSEN, P.A. 4800 IDS CENTER 80 SOUTH 8TH STREET MINNEAPOLIS, MN 55402-2100			SAADAT, CAMERON	
			ART UNIT	PAPER NUMBER
			3713	

DATE MAILED: 06/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/824,512

Applicant(s)

PERRY, JOHN S.

Examiner

Cameron Saadat

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 April 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

In response to amendment filed 4/9/2004, claims 1-20 are pending in this application.

#### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 1-6 and 9-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Jackson (NASA Technical Memorandum 110164 Manual for a Workstation-based Generic Flight Simulation Program).**

This holding, incorporated herein, is maintained from the prior action for the cited claims as amended. Response to the applicant's remarks are provided below and incorporated herein.

#### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.

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3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

**Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jackson (NASA Technical Memorandum 110164 Manual for a Workstation-based Generic Flight Simulation Program) in view of Allred.**

This holding, incorporated herein, is maintained from the prior action for the cited claims as amended. Response to the applicant's remarks are provided below and incorporated herein.

**Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jackson (NASA Technical Memorandum 110164 Manual for a Workstation-based Generic Flight Simulation Program) in view of Nakajima (U.S. Patent No. 6,411,945).**

This holding, incorporated herein, is maintained from the prior action for the cited claims as amended. Response to the applicant's remarks are provided below and incorporated herein.

***Response to Arguments***

Applicant's arguments filed 4/9/2004 have been fully considered but they are not persuasive.

Applicant emphasizes that there is no mention of a "causal network model" anywhere within Jackson. The examiner notes that claims are given their broadest reasonable interpretation in light of the supporting disclosure. In re Morris, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997). Limitations appearing in the specification but not recited in the claim are not read into the claim. In re Prater, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-551 (CCPA 1969). See also In re Zletz, 893 F.2d 319, 321-22, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989) ("During patent examination the pending claims must be interpreted as broadly as their terms reasonably allow.... The reason is simply that during patent prosecution when claims can be amended, ambiguities should be recognized, scope and breadth of language explored, and clarification imposed.... An essential purpose of patent examination is to fashion claims that

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are precise, clear, correct, and unambiguous. Only in this way can uncertainties of claim scope be removed, as much as possible, during the administrative process.”).

Applicant’s specification indicates, “The causal network model is the “computational brain” of the integrated evaluation and simulation system via an integrated collection of analysis models. Causal network methodology provides a way to diagram the elements and interrelationships among the elements that comprise the weapon system being studied. Once created, the causal network diagram is used as a blueprint to develop the mathematical models and computer source code that are used to model the weapon system” (P. 5, lines 6-11). Jackson discloses an evaluation and simulation system for a weapon system comprising

“LaRCsim, a set of C routines that implement a full set of equations of motion for a rigid body aircraft and low-earth orbital flight. It is to be used with additional, user-provided subroutines (either Fortran or C) that describe aerodynamics, propulsion system, and other *flight dynamic elements of a specific air vehicle*. Once combined with the vehicle-specific routines, LaRCsim provides a desktop- and /or cockpit-based near real-time *simulation of the vehicle for engineering analysis and control law development*. The six rigid-body degrees of freedom are modeled. *The modules provided include all of the kinematic relationships*, most of the conventional output variables, geodesy and atmospheric models, and a data recording option.” (See Jackson, P1, line 50 – P2, line 9); “The LaRCsim routines are used to provide appropriate aircraft dynamic responses to flight control commands” (P. 2, lines 30-31).

Thus, the system disclosed in Jackson comprises a causal network model, since a plurality *independent and dependent* weapon elements are modeled with computer subroutines in order to provide appropriate aircraft *dynamic responses to flight control commands* during simulation of a weapon for engineering analysis and control law development (P. 12, lines 20-22; P. 13, 20-33).

Applicant further emphasizes that Jackson does not disclose an “effectiveness simulator”. However, Jackson discloses an effectiveness simulator on (P. 2, lines 30-31) “The LaRCsim routines are used to provide appropriate aircraft dynamic responses to flight control commands”.

Applicant additionally asserts that Jackson does not disclose a control system that permits the underlying code to be run in one of a plurality of modes of operation, arguing that the fact that Jackson may be usable with different terminals does, user interfaces or output options, does not disclose a control system that permits the underlying code to be run in one of a plurality of modes of operation. However, Jackson discloses that the LaRCsim applications should be capable of running both with a cockpit and pilot in the loop as well as in terminal interactive and batch *modes* (P. 2, lines 42-43).

Applicant further emphasizes that Jackson does not disclose the features of a sensitivity analysis and an optimization routine. However, (on P. 2, lines 24-30) Jackson discloses that LaRCsim was developed as part of an engineering flight simulation facility at NASA Langley Research Center that is used to debug aircraft flight control laws. Thus, the LaRCsim routines are utilized to optimize aircraft flight control laws. Additionally, applicant’s specification indicates, “The *sensitivities mode* is designed to evaluate weapon system performance in terms of any design parameter in the causal network model 40. When this mode is selected, any input design parameter (independent variable) can be varied to evaluate the effects on any performance parameter (dependent variable)” (Applicant’s specification P. 12, lines 13-19). Thus, Jackson discloses the feature of providing sensitivity analysis since the system described in Jackson is designed to vary an input parameter to evaluate the effect on other parameters (See Jackson, P. 12, lines 20-22; P. 20, lines 32-40)

Applicant emphasizes that Jackson does not disclose the feature of presenting a causal network in the form of a diagram or data array on (P. 1). It is noted however, that (P. 13, lines

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14-32) discloses the feature of presenting the causal network in the form of a diagram or data array.

Applicant additionally asserts that Jackson does not teach or suggest the claimed relational database. However, Jackson discloses a relational database comprising dependent and independent variables of weapon system (P. 12, ¶ 5 – P. 6).

*Conclusion*

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

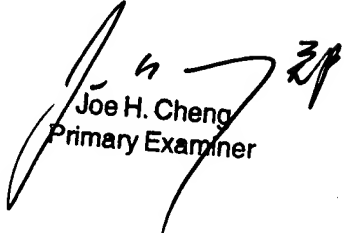
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cameron Saadat whose telephone number is 703-305-5490. The examiner can normally be reached on M-F 8:00 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's acting supervisor, Derris Banks can be reached on 703-308-1745. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CS

  
Joe H. Cheng  
Primary Examiner